Monthly Beverage Purchasing Behaviors in SNAP-Participating Households With Children

A Senior Honors Thesis

Presented in Partial Fulfillment of the Requirements
for Graduation with Distinction in Human Nutrition
in Human Ecology
at The Ohio State University

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May 2011

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I. Abstract

(Background) Rates of childhood obesity have been rising for decades in the United States. In industrialized countries like the US, food insecurity is linked to obesity rather than underweight. In 2009, 14.7% of US households experienced food insecurity. With many food insecure households participating in the USDA's Supplemental Nutrition Assistance Program (SNAP), analyzing the purchasing behaviors of people using SNAP gives insight to possible causes of the link between food insecurity and obesity. **(Purpose)** The purpose of this study was to examine the monthly fluctuations in SNAP-participating households' supplies of beverages to determine which drinks are purchased when food stamps are allocated at the beginning of the month and what drinks are purchased when finances are tighter at the end of the month. **(Methods)** The sample was drawn from three Ohio counties and includes only households with children. A shelf inventory questionnaire was administered at the beginning and end of the month for three months to record the kinds of foods and beverages present. **(Results)** No significant differences were found in lower energy drinks (i.e. lower fat milks), but there was a significant decrease in higher energy drinks (i.e. regular soda pop and fruit juices [$p<0.0001$]). **(Discussion)** The results suggest that relative financial security at the beginning of the month leads to increased purchasing of higher energy drinks, and that lower energy drinks are purchased more steadily throughout the month. This supports the hypothesis that a binging behavior occurs at the beginning of the month in food insecure households due to the acquirement of food stamps and that this repeats monthly to contribute to obesity. **(Conclusion)** This study has found that households that use food stamps and have children tend to splurge on higher energy drinks. More research should be conducted to determine whether it is children or adults who largely consume these high calorie beverages. Nutrition education is needed to inform SNAP participants about high-energy drinks consumption.

II. Introduction

"Childhood Obesity, Other Cardiovascular Risk Factors, and Premature Death," a recent article in *The New England Journal of Medicine*, studied the effects of childhood obesity, glucose intolerance, and hypertension in Arizona Pima Native Americans. The investigators found that these risk factors were strongly associated with increased rates of premature death (before 55 years-old) from endogenous causes in children born between 1945 and 1984. In fact, children in the highest quartile of BMI were more than twice as likely as those in the lowest quartile to die prematurely from endogenous causes.[1] Not only are the findings about this population startling, but they could also serve as a prediction of what is to come in the general United States population. Unlike other United States ethnic groups, Arizona Pima Native Americans have seen childhood obesity for several decades, and the authors note that obesity in

children of all ethnic groups is catching up to their rates.[1] Information like this prompts the study of the causes of childhood overweight to promote the lifelong health of Americans.

In industrialized countries like the United States, food insecurity is not linked to undernutrition as strongly as it is in developing nations. Rather, food insecurity is more associated with obesity. The importance of food insecurity in the United States was realized in 1984 when a President's Task Force found hunger in the country, and federal agencies, academics, and private-sector researchers mobilized to learn more about the problem and find solutions. In 2009, 14.7% of households experienced food insecurity, including 5.7% who experienced very low food security.[2] One of the main combatants of food insecurity in the U.S. is the food stamp program, now called the Supplemental Nutrition Assistance Program (SNAP). This program developed from previous USDA programs designed to spur consumption of surplus farm produce while simultaneously nourishing low-income people who could benefit greatly. The latter part of this plan grew, and the food stamp program is now the largest portion of the USDA's budget.[3] Because food stamps are an important part of the budgets of food insecure people, examining the ways they are applied to purchase food could go a long way in determining why the food insecure are more likely to be obese.

The objective of this study is to determine if beverage-purchasing behaviors in SNAP-participating households may contribute to childhood overweight and obesity. There are a few ways this could happen. First of all, there may not be an emphasis in these households on purchasing nutrient dense drinks like low fat or nonfat milks. If the dairy purchases are largely whole milk or chocolate milk, this practice could contribute to obesity. Secondly, prioritizing fruit juices or fruit drinks as a means of delivering nutrition rather than lower fat milks would suggest a higher consumption of sugar and kilocalories. Not only would this increase the risk of obesity, but it could also impair bone development and promote tooth decay. Thirdly, when there

are adequate financial resources at the beginning of the month due to food stamp allocation, families may choose to purchase higher energy density drinks like sodas and chocolate milk as treats for their children. While this study will not determine whether children in families that use food stamps are in fact more afflicted by these nutrition-related problems, it will attempt to unveil the nutritional quality of the drinks available to children in low-income families.

"Food Insecurity and Obesity: A Paradox Emerges" by Dr. Hugo Melgar-Quinonez and his team is the springboard for this study. His research seeks to determine the reason for the inverse association between food availability and obesity by testing the "monthly cycle of food abundance and food shortage" hypothesis. This hypothesis states that a cycling food pattern occurs, with families using food stamps over-consuming at the beginning of the month when financial resources are available and under-consuming when financial resources are depleted at the end of the month. This cycling could bring overweight and obesity over time when the negative energy balance at the end of the month fails to match the larger positive energy balance at the beginning of the month.[3] The hypothesis for this study is quite similar in that it seeks to discern a cycling pattern in the presence of high energy density and low energy density beverages, based on the household's financial resources.

III. Literature Review

A 2004 study entitled "Relationship of Child-Feeding Practices to Overweight in Low-Income Mexican-American Preschool-Aged Children" by Dr. Hugo Melgar-Quinonez and Dr. Lucia Kaiser aimed to identify factors that relate to risk of overweight and overweight in this group of children. Three variables were positively related to risk of overweight and overweight in preschool-aged children: birth weight, mother's BMI ≥ 30, and juice intake as a proportion of daily energy intake. The study noted that excessive juice intake has been linked to overweight in

previous studies as well, though other studies on white children did not find the same results.[4] Overweight in children is of concern because it—as well as obesity in adolescence—increases the chance of being obese in adulthood. Adulthood obesity is difficult to treat, so a more effective approach would be to develop healthy eating practices to prevent obesity in childhood. The factors that are associated with overweight in young children, particularly those modifiable by nutrition intervention, are important to identify to treat childhood overweight.[4] One of these modifications could be replacing excessive fruit juice and fruit drink intake with low fat milk.

Melgar-Quinonez and Kaiser found that greater food insecurity is associated with a decrease in the household supply of fruit juices, but the level of fruit drinks remains the same. They also suggest that children who consume a lot of juice might consume a lot of sweetened beverages when their families run out of money. Because these sweetened drinks contain high levels of fructose, which does not stimulate insulin secretion, they contribute to excessive weight gain and potential long-term problems with energy regulation. Another way that excess consumption of fruit drinks can lead to overweight is that children might not be as capable of self-regulating their energy intake because they are consuming large amounts of carbohydrate as a liquid rather than a solid.[4] These findings mean that children have less healthy beverage options when their family is low on finances and that the drinks available to them have serious implications for their health.

The article also discussed the relationship between food insecurity and obesity in adults and children. It reported that some cross-sectional studies had found a positive correlation between food insecurity and obesity in adults and that early deprivation—potentially including food insecurity—could bring a short-term weight decrease in childhood followed by a rebound period resulting in adult obesity. These findings applied to later-life adulthood rather than young adulthood. While the results point to childhood food insecurity as a reason for adult obesity, it is

also important to add that Melgar-Quinonez and Kaiser's study followed previous studies by reporting that low BMI in Latino schoolchildren was related to food insecurity.[4] Therefore, even if children are not at risk for overweight or overweight while growing up, the consequences of food insecurity during this important time can potentially be seen for decades.

"Correlates of Fruit and Vegetable Intakes in U.S. Children" by Lorson, Melgar-Quinonez, and Taylor assessed the quality of the intakes of fruits and vegetables compared to the *Dietary Guidelines for Americans* in American children and adolescents, and it sought to define the factors related to low fruit and vegetable intakes in this group. The fact that fruit and vegetable intakes are low in American children is critical because their diets are therefore likely low in essential nutrients and phytochemicals. In addition, consumption of French-fried potatoes and fruit juices has risen to account for nearly one-third of vegetable intake and one-quarter of fruit intake, respectively, in the United States.[5] Not only are these sources of fruits and vegetables typically less nutrient-dense than eating whole fruits or vegetables, but they are also more energy-dense; therefore, increased consumption of them may contribute to overweight and obesity.

The nationally representative sample in this study showed a significant relationship between household income and juice intake: Children living in households above 350% the poverty level consumed a higher proportion of fruit as juice compared to children living between 130% and 350% the poverty level. Also, children living in marginally food secure households had the highest intakes of cups of fruit juice compared to other food security categories, though these differences were not significant. These findings follow reports from previous studies that found fruit intakes to be significantly higher in children above 130% the federal poverty line.[5] These results are key in that they suggest that children in poor households—though less likely to

consume energy-dense fruit juices—are less likely to obtain an adequate intake of fruits and that excessive reliance on fruit juice as a source of fruit is present across household income levels.

Lorson, Melgar-Quinonez, and Taylor's study also found that the leading source of total fruit was 100% fruit juice, and that juice accounted for significantly more of the total fruit intake for children aged 2- to 5-years than for 6- to 11-year-old and 12- to 18-year-old children. Indeed, 100% fruit juice provided over 30% to total fruit in the 6- to 11-year-old group, while it contributed over 38% to total fruit for the 2- to 5-year-old and 12- to 18-year-old age groups. The authors explained this occurrence by addressing the significantly higher consumption of fruit by 2- to 5-year-olds than 6- to 11-year-olds and 12- to 18-year-olds and the fact that the percentage of children meeting daily fruit recommendations declines as age increases.[5] These findings suggest the need for nutrition interventions to increase fruit intakes in children aged six and older and to decrease reliance on fruit juices and fruit drinks as a source of fruit across ages.

"Likely effects on obesity from proposed changes to the U.S. food stamp program" by Alston, Mullally, Sumner, Townsend, and Vosti explored the likely impacts of allowing Supplemental Nutrition Assistance Program (SNAP) participants to purchase healthy foods with food stamps. As it is, SNAP participants typically spend more on food, more on food outside the home, and are more likely to be overweight or obese.[6] Households at or below 130% the poverty level are generally eligible for food stamps, and around 50% of eligible individuals have participated historically. Children are the largest age group to participate in SNAP, as just over half of the roughly 25 million participants are children under the age of 17. Average monthly benefits per household are approximately $200.[6] For the people who participate in SNAP, the consequences of the program are mixed.

SNAP has been quite successful when evaluated on the basis of its original objectives: It has assisted millions of low-income households, and this assistance has increased food

expenditures, increased incomes of the poor, reduced food insecurity, and decreased child poverty. Generally, positive effects on the overall household availability of food energy and protein are also seen in SNAP participants.[6] Unintended consequences of the program have been seen as well, as SNAP participants have been found to eat less-healthy diets than SNAP-eligible non-participants and wealthier non-participants. This was especially true regarding fruit intake as well as food variety. SNAP participants are also more likely than non-participants to suffer from iron deficiencies and anemia. There have been mixed conclusions regarding SNAP participation and body weight, as there is a positive relationship between participation in SNAP and obesity for adult women, though no such relationship was found for men. These findings are not all bad when compared to the obesity rates across the population of the United States: The rate of obesity in US adults has continued to increase, while BMI's of food stamp recipients has declined on average.[6] As a whole this information suggests that SNAP has encouraged positive changes in the food availability and security to its participants, though the correlation between SNAP participation and the individual's health is not as clear-cut and depends on each person's personal choices and knowledge of nutrition.

The way people use their food stamps is vital to the results of the program. Most SNAP participants spend more on food than their food stamp allotment.[6] When this happens the food stamps act as an income supplement and have the same effect on food purchasing as giving the participant money. This means that restricting food stamps to only apply to the purchase of certain healthy foods merely affects the behaviors of the people who rely on food stamps solely to buy food. Such a policy change would make these people consume more healthy foods and, most likely, less unhealthy foods. This policy may also drive some people away from the SNAP. Households that rely on food stamps completely for the purchase of their food (estimated to be between 5% and 30%) are more affected by the value of food stamps allocated, and more stamps

would directly increase consumption.[6] Therefore, changes in the application of food stamps is a complex process that affects different participants in a spectrum of ways—from having no effect on households using SNAP as an income supplement to implementing a dramatic overhaul on the purchasing and consuming practices of people who rely solely on food stamps to obtain food.

One final potential consequence of restricting food stamps to only apply to healthy foods could be seen in the dairy industry if food stamps could only be used for low-fat milk. Because there is a set proportion of fat and non-fat components in milk, a shift to higher consumption of low-fat dairy products by some consumers would necessarily leave more fat to be consumed by others. If this increase in the demand for low-fat dairy were sustained, it would drive a decrease in the cost of higher fat dairy to rebalance the consumption to match the ratio of fat to non-fat solids in milk as it comes from the farm. While this change would notably benefit SNAP participants, it would negatively impact the consumption practices of people who are eligible for SNAP but do not participate.[6]

IV. Methods

The larger study, "Food Insecurity and Obesity: A Paradox Emerges," took place in three Ohio counties that administer the Family Nutrition Program (FNP): Huron, Richland, and Butler counties. FNP's focus is on low-income families that are eligible for food stamps, and the participation of the staff was critical to FNP's success. Because of this, the counties in the study were picked based on the quality of human resources at each location. In addition, the counties were selected based on their locations in North and South Ohio. The subjects recruited for the study were FNP-participating women. The study focused on women because nationally representative data has shown that food insecurity is related to obesity in women more than men, and women have a higher incidence of obesity overall. In addition, households headed by a

female have the highest prevalence of food insecurity. The study targeted FNP participants for a few reasons. Seventy-five percent of Ohio FNP participants in 2006 were women, and FNP supplies families in over 65 Ohio counties with nutrition education. FNP also provides certainty of local support necessary for the study, including an interviewer staff composed of OSU Extension professionals quite familiar with working in low-income communities.[3]

Fifty-two women were recruited from Butler County, four were recruited from Huron County, and nine were recruited from Richland County. The subjects earned $15 per visit, and the incentives were delivered at the last interview. Half of these women were classified as food secure, and the other half were classified as food insecure based on the HFSSM (Household Food Security Supplemental Module, to be explained below). Within these food security categories, women were further classified based on their BMI into two groups: BMI ≥ 30 was obese, and BMI ≤ 29.9 was non-obese. Thus, women were categorized into four groups of food security/weight status: 1) food secure/not obese, 2) food secure/obese, 3) food insecure/not obese, and 4) food insecure/obese. Most of the women were classified in the food insecure/obese category. This design allowed the research team to address the possible relationship between food insecurity and obesity.[3] Fifty women completed all six surveys, allowing for statistical significance.

Each woman was interviewed at the beginning and the end of the month (i.e. "beginning of the month" represents the period where food stamps/finances are available for the purchase of food, while "end of the month" corresponds with a potential shortage of these resources). Family and Consumer Sciences (FCS) Extension Educators and Program Assistants were responsible for gathering the data in face-to-face interviews that took one-and-a-half to two hours per session. The interviewers were trained in Columbus before data collection began. The women were divided evenly into four groups, and each group was followed for a period of three

months, with the groups distributed over twelve months. Group 1 was followed from January to March; group 2 was followed from April to June; group 3 was followed from July to September; and group 4 was followed from October to December. This model allowed the investigators to identify differences due to seasonal changes.[3]

The prospective design of the larger study was approved by The Ohio State University Institutional Review Board and allowed the team to explore questions that cannot be answered by former cross-sectional studies. This study's design allowed for testing the existence of cycling between food abundance at the beginning of the month and food shortage at the end of the month in food insecure families, with the goal of explaining previous findings that related food insecurity to overweight. Rather than merely addressing that a relationship exists between food insecurity and obesity, this design sought to discover why this relationship exists by testing the "food abundance/food shortage cycle" hypothesis.[3]

Before the first interview, each subject read and signed an informed consent form approved by The Ohio State University Institutional Review Board. At this time, baseline demographic data and food security information was gathered. Dietary intake and shelf inventory data was collected at each interview (six total, over three months). Food security status was assessed at the first, third, and fifth sessions, and anthropometric data was collected at the first and sixth sessions. A questionnaire concerning eating disorders was administered during the second session. Data entry and data cleaning were carried out as the surveys were returned.[3]

Survey tools for the study were: Family record, HFSSM, dietary intake data, shelf food-inventory (see addendum), eating disorders examination questionnaire, and anthropometrics. The family record questionnaire included demographic and socio-economic data, like family composition, household characteristics, income, education, and use/access to food assistance. The 18-item HFSSM, or Household Food Security Supplemental Module, measured the food

security status of individuals in the household, as well as the household in general. Dietary intake data was gathered using the multiple 3-pass method, and the software "The Food Processor" was used to calculate energy and nutrient intakes. Staff used the shelf food-inventory to collect information about the household's food supply at the time of the interview. The eating disorders examination questionnaire assessed eating disorder attitudes and binge eating disorders. Finally, anthropometric data—weight and height—was measured to calculate body mass indexes (BMI).[3]

Because the goal of this thesis is to determine if there is a monthly cycle in beverage composition in households with at least one child over age two, the shelf inventory records provided the necessary data. Each subject's food supply was evaluated for the presence of listed food items, and if the subject had a food item that was not on the list the interviewer recorded the item. Shelf inventories were gathered with the rest of the data at the beginning and end of the month for three months, so there were six shelf inventories for each subject. While data was collected for numerous food groups and all food in each household was recorded, the only data that was included for this project were the milk and beverage categories. A "1" in the spreadsheet signals that the subject's household had that item, and a "0" or an omission in the spreadsheet means that the subject's household did not have the item. The milk items that were evaluated were whole milk, two-percent milk, one-percent milk, non-fat milk, and soymilk. Evaluated beverages included all fruit juices, fruit drinks, regular and diet soda pops, soft drinks, and sport drinks.

V. Results

Beverages were grouped together according to their energy density. The high energy density group included: whole milk, chocolate milk, strawberry milk, regular soda, pure fruit

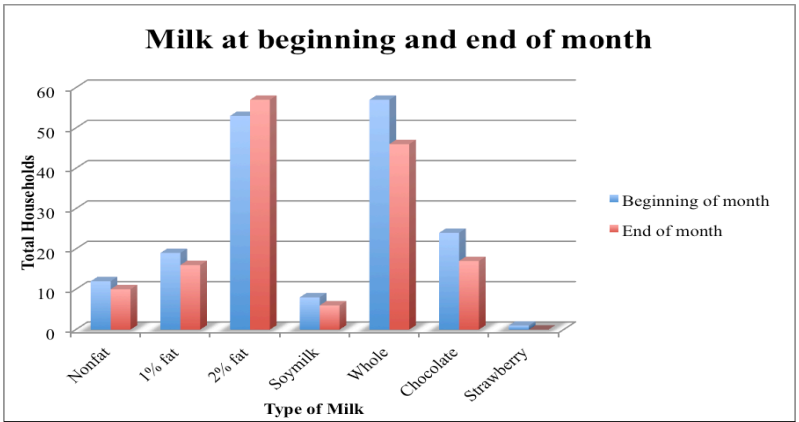

Figure 1: Number of households that have each type of milk at beginning and end of month. There was a significant decrease in whole milk (p=0.02). Two percent milk was the only type of milk to increase from the beginning of the month to the end of the month.

juice, fruit drink, Koolaid, hot chocolate, sports drinks, and lemonade. These drinks were considered "high energy density" because they either offered higher kilocalories or fewer nutrients than other choices in the same food group.[7] The low energy density group included: nonfat milk, 1% fat milk, 2% fat milk, soymilk, diet soda, and vegetable juice. Similarly, these drinks were considered "low energy density" because they were lower in kilocalories than other choices in the same food group.[7]

There was a significant decrease in all beverages considered together from week 1 to week 4 ($p<0.0001$; mean week 1=13.5, mean week 4=11.40), showing that beverage stores decrease as the month goes on. Every beverage except 2% milk showed a decrease from the beginning to the end of the month. The decline was significant in the high energy density group ($p<0.0001$; mean week 1=10.37, mean week 4=8.42), but there was not a significant decline in the low energy density group (p=0.192;

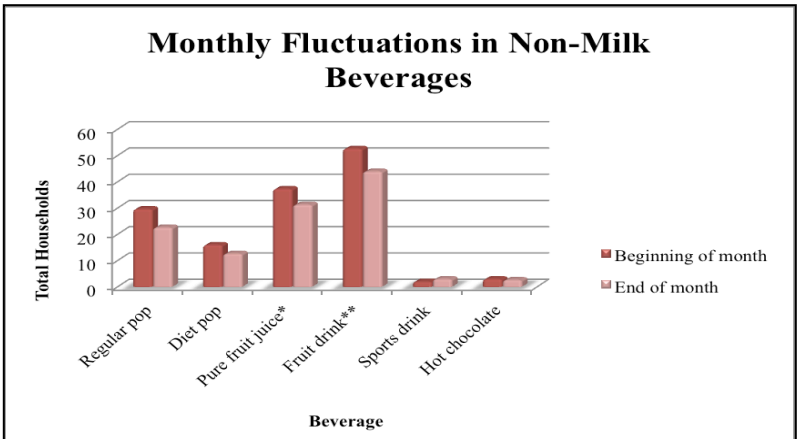

Figure 2: Number of households that have each non-milk beverage at beginning and end of month. There were significant decreases in regular pop (p=0.001), diet pop(p=0.038), pure fruit juice (p;0.001), and fruit drink (p=0.005). The increase in sports drink was significant (p=0.04).
*Pure fruit juice also includes vegetable juice
**Fruit drink also includes lemonade, koolaid, fuze, tang, and apple cider

mean week 1=3.16, mean week 4=2.98). Beverages that showed a significant decrease were: whole milk (p=0.0198), regular soda (p=0.0011), diet soda (p=0.0384), pure fruit juice (p=0.0011), and fruit drink (p=0.0051).

VI. Discussion

The overall trend of beverage decline is predictable, considering that food stamps are distributed at the beginning of the month and financial resources are tighter by the end of the month. What is more surprising is that there is a distinction between the decline in high energy density drinks and low energy density drinks. Low energy density beverages like low fat and nonfat milk appear to be staples in many of these households since there is not a significant decrease in their presence from week 1 to week 4. This means that, regardless of food stamps, these households prioritize purchasing drinks like nonfat milk, 1% fat milk, 2% fat milk, and soymilk throughout the month. Not only are these beverages relatively low in kilocalories, but they are also a good source of protein, calcium, vitamin A, and vitamin D.

There are a number of reasons why more nutrient dense drinks are staples. One could be price. Milk is typically cheaper than juice, though this does not account for the difference between the lower fat milks and whole milk. Another reason could just be that household members regularly drink low fat and nonfat milks, and high energy density drinks are considered a "treat" at the beginning of the month when they are affordable. Still an additional reason could be due to the nutrition education received from participation in the Ohio Family Nutrition Program. Maybe these families understand that lower fat milks are better for their health, so they prioritize buying them throughout the month.

The findings of this study support the monthly cycle of food abundance and food shortage hypothesis in that: 1) The purchasing of beverages in general decreased significantly

from the beginning to the end of the month, and 2) the beverages purchased significantly more at the beginning of the month had a higher energy density (i.e. regular pop, whole milk, fruit drinks, etc.). So, not only do households participating in SNAP splurge on beverages at the beginning of the month, but they also purchase drinks with high energy density. Instead of drinking more of the beverages they typically consume, people in these households are bingeing on beverages that are higher in kilocalories. Data that supports this bingeing behavior can be found in Qian Ye's project that evaluated 24-hour food recall data collected on the women of this sample. The fact that there was a significant decrease in high energy density items with a long shelf life, like regular pop and fruit drinks, suggests that these items were consumed during the binge period at the beginning of the month, rather than purchased to store and consume moderately throughout the month. These observations suggest that more kilocalories are consumed at the beginning of the month than at the end of the month. Considering these results and the rising rates of obesity in children and low income Americans, the purchasing behavior of people participating in SNAP could be contributing to America's obesity epidemic.

VII. Conclusion

This study concludes that beverages do contribute to the monthly cycle of food abundance and food shortage hypothesis in SNAP-participating households with children. Not only that, but the abundance of beverages at the beginning of the month largely consists of energy dense drinks including whole milk, regular pop, fruit juice, and fruit drinks. A few points should be addressed by future studies to determine the extent of this purchasing behavior on children's eating patterns:

1) While the presence of energy dense drinks is elevated at the beginning of the month, we do not know whether it is the adults or the children who are consuming them. Even

though this study focused on drinks that could be consumed by children, 24-hour recall data was only collected on the woman of the household.

2) Research to determine how long the bingeing period at the beginning of the month lasts would improve understanding of the monthly cycle of food abundance and food shortage. Though this surely fluctuates based on the food security status of the household, three weeks of bingeing on high energy density beverages would likely have a greater impact on obesity than one week of bingeing.
3) While nutrient dense drinks are purchased more regularly throughout the month, finding ways to educate SNAP participants to stay away from energy dense drinks—even when they have more financial resources—could decrease rates of adult and childhood overweight and obesity in the low-income American population.

Works Cited

1. Franks, Paul W., Robert L. Hanson, William C. Knowler, Maurice L. Sievers, Peter H. Bennett, and Helen C. Looker. "Childhood Obesity, Other Cardiovascular Risk Factors, and Premature Death." *New England Journal of Medicine* 362.6 (2010): 485-93. Print.
2. Nord, Mark, Alisha Coleman Jenson, Margaret Andrews, and Steven Carlson. *Household Food Security in the United States, 2009.* ERR-108, U.S. Dept. of Agriculture, Econ. Res. Serv. November 2010.
3. Melgar-Quinonez, Hugo R., Joyce R. McDowell, Ana Claudia Zubieta, Dan Remley, and Cindy Long. *Food Insecurity and Obesity: A Paradox Emerges*. The Ohio State University, 2007.
4. Melgar-Quinonez, Hugo R., and Lucia L. Kaiser. "Relationship of Child-Feeding Practices to Overweight in Low-Income Mexican-American Preschool-Aged Children." *Journal of The American Dietetic Association* (2004): 1110-117.
5. Lorson, Barbara A., Hugo R. Melgar-Quinonez, and Christopher A. Taylor. "Correlates of Fruit and Vegetable Intakes in U.S. Children." *Journal of the American Dietetic Association* (2009): 474-78.
6. Alston, Julian M., Conner C. Mullally, Daniel A. Sumner, Marilyn Townsend, and Stephen A. Vosti. "Likely Effects on Obesity from Proposed Changes to the U.S. Food Stamp Program." *Food Policy* 34.2 (2009): 176-84. *Elsevier*. Web. 24 Feb. 2010.
7. "Steps to a Healthier Weight." *MyPyramid.gov*. United States Department of Agriculture, 10 Feb. 2011. Web. 01 May 2011. <http://www. mypyramid.gov/steps/nutrientdensefoods. html>.

SHELF INVENTORY SURVEY

Participant / ID# ☐☐☐ **Date** ☐☐ / ☐☐ / ☐☐
Month Day Year

Interviewer _____

County _____

Participant's name_____

Please answer the following questions:

1. How many persons live in your household? _____ persons

2. When did someone in your house last shop for groceries? (Check in the box)

☐ Today ☐ Yesterday ☐ 2 days ago ☐ 3 days ago ☐ 4 days ago

☐ 5 days ago ☐ 6 days ago ☐ 1 week ago ☐ More than 1 week ago

3. How often do you eat away from home?

☐ Never or less tan 2 times per week ☐ 3 to 5 times per week ☐ 6 to 8 times per week

☐ 9 to 11 times per week ☐ 12 or more times per week

Please tell us **WHICH FOODS ARE PRESENT IN YOUR HOME RIGHT NOW**. Be sure to think about all places where you store food.

MILK, DAIRY, ICE CREAM AND YOGURT

YES	NO	
☐	☐	Milk, Whole
☐	☐	Milk, low-fat (2 %)
☐	☐	Milk, low-fat (1 %)
☐	☐	Milk, Nonfat
☐	☐	Chocolate or Strawberry Milk
☐	☐	Milk, powder
☐	☐	Sour Cream, regular
☐	☐	Sour Cream, reduced calories or Low Fat
☐	☐	Whipping Cream
☐	☐	Ice cream, regular
☐	☐	Ice cream, low-fat

☐	☐	Ice cream, nonfat
☐	☐	Sherbet
☐	☐	Popsicle
☐	☐	Yogurt, regular
☐	☐	Yogurt, low-fat
☐	☐	Yogurt, nonfat
☐	☐	Other, please write down name: _____

_____

BEVERAGES

YES	**NO**	
☐	☐	Coffee, regular
☐	☐	Coffee, decaffeinated
☐	☐	Tea, black or herbal
☐	☐	Soda Pop, regular
☐	☐	Soda Pop, diet
☐	☐	Beer, regular (any kind)
☐	☐	Beer, light
☐	☐	Fruit Juices, 100% pure
☐	☐	Fruit Drinks (Tropicana, Sunlight, Hi-C, etc.)
☐	☐	Other juices, please write down name: _____

_____

☐	☐	Koolaid
☐	☐	Wine
☐	☐	Other beverages, please write down name: _____

_____

IS THERE ANY OTHER FOOD ITEM, which has not been mentioned in this survey, and **THAT IS IN YOUR HOUSEHOLD RIGHT NOW?** Please tell us the name:

_____

_____

_____